



flawless fusion with infinite possibilities

SIFAM
F I B R E O P T I C S

Fixed Attenuator



The Fixed Attenuator is a compact fused fibre component that reduces optical power by a specified amount. SIFAM proprietary manufacturing technology provides accurate attenuation, with low wavelength, temperature and polarisation dependence.

Designed for use where optical power levels need to be managed, the component has standard attenuation values ranging from 1 to 20dB. Standard wavelength windows are the C, L, C+L or S bands.

Attenuators may also be optimised for custom attenuation levels, tolerances and wavelengths. Please contact the sales office for further information.

Key Features:

- Fixed attenuation
- High performance
- Low back reflection
- Proven reliability
- C, L, C+L or S band
- Custom parts available

Applications:

- Power management in optical networks
- Receiver protection
- WDM system channel balancing
- Test equipment
- Fibre lasers
- Sensors

Compliance:

Telcordia GR-1221

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Certificate No. 0962231

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Optical Specifications

| Wavelength Range | | C band, L band | | | | C+L, S band | | | |
|----------------------|-------|----------------|-----------------------|-----------------------|-----------------------|----------------|-----------------------|-----------------------|-----------------------|
| Attenuation (dB) | Grade | Tolerance (dB) | WDL ₁ (dB) | PDL ₂ (dB) | TDL ₃ (dB) | Tolerance (dB) | WDL ₁ (dB) | PDL ₂ (dB) | TDL ₃ (dB) |
| Example ₄ | | ± | Max | Max | Max | ± | Max | Max | Max |
| 1 | A | 0.2 | 0.10 | 0.80 | 0.10 | 0.3 | 0.25 | 0.80 | 0.10 |
| 1 | B | 0.4 | 0.15 | 0.10 | 0.10 | 0.5 | 0.40 | 0.10 | 0.10 |
| 2 | A | 0.2 | 0.10 | 0.80 | 0.10 | 0.3 | 0.25 | 0.80 | 0.10 |
| 2 | B | 0.4 | 0.15 | 0.10 | 0.10 | 0.5 | 0.40 | 0.10 | 0.10 |
| 3 | A | 0.2 | 0.10 | 0.80 | 0.10 | 0.3 | 0.25 | 0.80 | 0.10 |
| 3 | B | 0.4 | 0.15 | 0.10 | 0.10 | 0.5 | 0.40 | 0.10 | 0.10 |
| 4 | A | 0.3 | 0.10 | 0.09 | 0.10 | 0.3 | 0.30 | 0.09 | 0.10 |
| 4 | B | 0.5 | 0.15 | 0.11 | 0.10 | 0.5 | 0.45 | 0.11 | 0.10 |
| 5 | A | 0.3 | 0.10 | 0.10 | 0.10 | 0.6 | 0.30 | 0.10 | 0.10 |
| 5 | B | 0.5 | 0.15 | 0.15 | 0.10 | 0.8 | 0.50 | 0.15 | 0.10 |
| 7 | A | 0.5 | 0.12 | 0.10 | 0.10 | 0.8 | 0.37 | 0.10 | 0.10 |
| 7 | B | 0.8 | 0.15 | 0.15 | 0.10 | 1.1 | 0.55 | 0.15 | 0.10 |
| 10 | A | 0.6 | 0.13 | 0.10 | 0.13 | 0.9 | 0.40 | 0.10 | 0.13 |
| 10 | B | 1.0 | 0.18 | 0.15 | 0.13 | 1.2 | 0.60 | 0.15 | 0.13 |
| 13 | A | 0.8 | 0.15 | 0.12 | 0.15 | 1.1 | 0.45 | 0.12 | 0.15 |
| 13 | B | 1.2 | 0.20 | 0.20 | 0.15 | 1.5 | 0.80 | 0.20 | 0.15 |
| 15 | A | 0.9 | 0.18 | 0.14 | 0.15 | 1.2 | 0.50 | 0.14 | 0.15 |
| 15 | B | 1.4 | 0.26 | 0.20 | 0.15 | 1.9 | 0.90 | 0.20 | 0.15 |
| 17 | A | 1.0 | 0.22 | 0.15 | 0.15 | 1.3 | 0.60 | 0.15 | 0.15 |
| 17 | B | 1.5 | 0.30 | 0.20 | 0.15 | 2.4 | 1.00 | 0.20 | 0.15 |
| 20 | A | 1.4 | 0.25 | 0.20 | 0.20 | 2.4 | 0.90 | 0.20 | 0.20 |
| 20 | B | 2.4 | 0.35 | 0.25 | 0.20 | 2.8 | 1.20 | 0.25 | 0.20 |

1. Change in insertion loss over the operating wavelength range
2. Change in insertion loss over all input polarisation states at band centre wavelength
3. Change in insertion loss from -5 to 75°C
4. Any attenuation available – contact SIFAM for specification of attenuation not listed.

| Parameter | Specification | Unit |
|--|-------------------|-----------|
| Operating Wavelength Range | C band | 1528-1563 |
| | L band | 1570-1605 |
| | C+L Band | 1528-1605 |
| | S Band | 1425-1500 |
| Return Loss ₁ | 55 | dB |
| Pigtail Tensile Load | 5 | N |
| Operating Temperature Range ₂ | -40 to +75 | °C |
| Storage Temperature Range | -40 to +85 | °C |
| Environmental Qualification | Telcordia GR 1221 | |

1. Return loss is the ratio of power launched to power reflected for input port P1.
2. For connectorised component, operating temperature range is -5 to +75°C.

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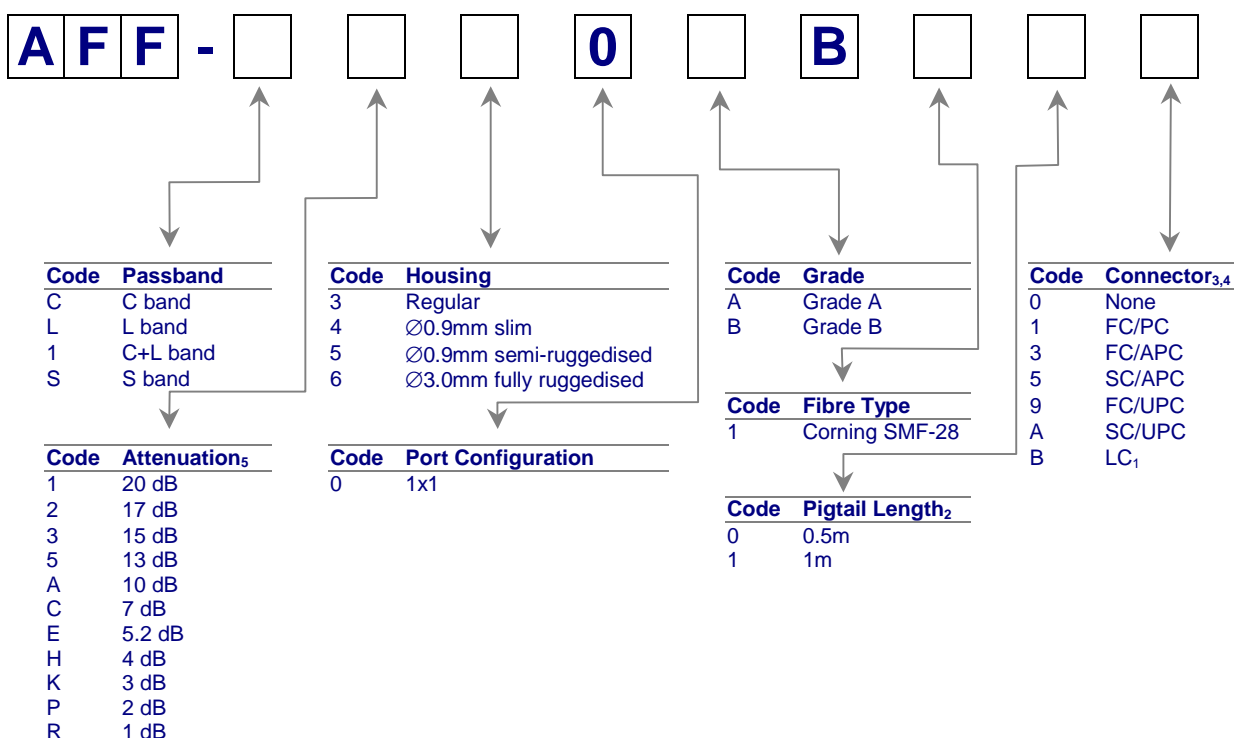
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Housing Option

| Housing Code | Description | Dimensions (mm) | Pigtail |
|--------------|---------------------------|-------------------------|---------------------------|
| 3 | Regular | 3.0 (Ø) x 55 (L) | Primary-coated fibre |
| 4 | Ø 0.9 mm slim | 3.0 (Ø) x 65 (L) | Ø 0.9 mm loose-tube |
| 5 | Ø 0.9 mm semi-ruggedised | 5.0 (Ø) x 80 (L) | Ø 0.9 mm loose-tube |
| 6 | Ø 3.0 mm fully-ruggedised | 80 (L) x 10 (W) x 8 (H) | Ø 3.0 mm fan-out sleeving |

Ordering Code Information

Sample: AFF-C130AB110 (C Band, 20dB attenuation, regular housing, grade A, SMF-28 fibre, 1m pigtail, no connector)



- Not available for housing option 6.
- Minimum pigtail length. Further pigtail lengths available on request. Where connectorised, pigtail length is to connector end face.
- Attenuation in specification table does not include connector losses.
- Connectors are fitted as standard to housing codes 4,5, and 6 only. To request connectors fitted to housing code 3, please contact the sales office.
- Any attenuation available – contact SIFAM for specification and ordering codes of attenuators not listed.

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